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Reference EP50619JK900dfi ✓	Application No./Patent No. 04793030.0 - 1227 / 1806800 PCT/JP2004015918
Applicant/Proprietor Toto Ltd. ✓	

Communication

The European Patent Office herewith transmits as an enclosure the supplementary European search report under Article 153(7) EPC for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

- 1 additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

Refund of the search fee

If applicable under Article 9 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.



**SUPPLEMENTARY
EUROPEAN SEARCH REPORT**

Application Number

EP 04 79 3030

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
1) X	GB 2 286 482 A (UNIVERSITY COURT OF NAPIER UNIVERSITY [GB] UNIV NAPIER [GB]) 16 August 1995 (1995-08-16) * page 10, lines 10-18 * * figure 3 * * claims 1-23 *	1,2	INV. H01M8/02 H01M8/12 H01M8/24
2) X	US 2003/054215 A1 (DOSHI RAJIV [US] ET AL) 20 March 2003 (2003-03-20) * claims 11,15,16,24,25 *	1,2	
3) X	EP 1 294 035 A (NGK INSULATORS LTD [JP]) 19 March 2003 (2003-03-19) * paragraph [0139]; figure 9 *	1,2	
4) A	US 4 833 045 A (POLLACK WILLIAM [US] ET AL) 23 May 1989 (1989-05-23) * claim 1 *	1,2	
5) A	US 4 898 792 A (SINGH PRABHAKAR [US] ET AL) 6 February 1990 (1990-02-06) * column 5, lines 18-30 *	1,2	TECHNICAL FIELDS SEARCHED (IPC)
			H01M
4	The supplementary search report has been based on the last set of claims valid and available at the start of the search.		

Place of search

The Hague

Date of completion of the search

22 July 2009

Examiner

Reich, Claus

CATEGORY OF CITED DOCUMENTS

- X : particularly relevant if taken alone
- Y : particularly relevant if combined with another document of the same category
- A : technological background
- O : non-written disclosure
- P : intermediale document

- T : theory or principle underlying the invention
- E : earlier patent document, but published on, or after the filing date
- D : document cited in the application
- L : document cited for other reasons
- & : member of the same patent family, corresponding document

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

- The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

LACK OF UNITY OF INVENTION
SHEET B

Application Number

EP 04 79 3030

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1(part),2

An electrically conductive member for electrically connecting a plurality of solid oxide fuel cells in series and/or parallel to assemble a fuel-cell stack, wherein the electrically conductive member comprises a metal sheet having a three-dimensional porous structure of a continuous skeleton, characterized in that the diameter of voids in the three-dimensional porous structure is in the range of 0.30 to 0.80 mm.

2. claims: 1(part),3

An electrically conductive member for electrically connecting a plurality of solid oxide fuel cells in series and/or parallel to assemble a fuel-cell stack, wherein the electrically conductive member comprises a metal sheet having a three-dimensional porous structure of a continuous skeleton, characterized in that the axis diameter of the skeleton is in the range of 35 to 80 m.

3. claims: 1(part),4

An electrically conductive member for electrically connecting a plurality of solid oxide fuel cells in series and/or parallel to assemble a fuel-cell stack, wherein the electrically conductive member comprises a metal sheet having a three-dimensional porous structure of a continuous skeleton, characterized in that the electrically conductive member comprises a resin having a three-dimensional porous structure of a continuous skeleton and a metal plating thereon.

4. claims:

1(part),5(part),6,8-13(part),16(part),
17(part),20-23(part)

A fuel-cell stack comprising a plurality of solid oxide fuel cells electrically connected in series and/or parallel through an electrically conductive member, wherein the electrically conductive member comprises a metal sheet having a three-dimensional porous structure of a continuous skeleton, characterized in that the electrically conductive member comprises a plurality of metal sheets having a three-dimensional porous structure of a continuous skeleton stacked on top of each other.

LACK OF UNITY OF INVENTION
SHEET B

Application Number

EP 04 79 3030

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

5. claims:

1(part), 5(part), 7, 8-13(part), 16(part),
17(part), 20-23(part)

A fuel-cell stack comprising a plurality of solid oxide fuel cells electrically connected in series and/or parallel through an electrically conductive member, wherein the electrically conductive member comprises a metal sheet having a three-dimensional porous structure of a continuous skeleton, characterized in that the electrically conductive member comprises a metal sheet having a three-dimensional porous structure of a continuous skeleton which has been folded a plurality of times.

6. claims: 1(part), 5(part), 14, 15

A fuel-cell stack comprising a plurality of solid oxide fuel cells electrically connected in series and/or parallel through an electrically conductive member, wherein the electrically conductive member comprises a metal sheet having a three-dimensional porous structure of a continuous skeleton, characterized in that the electrically conductive member has been divided into a plurality parts which are provided over substantially the whole length in the axial direction of the fuel cell.

7. claims: 1(part), 5(part), 18, 19

A fuel-cell stack comprising a plurality of solid oxide fuel cells electrically connected in series and/or parallel through an electrically conductive member, wherein the electrically conductive member comprises a metal sheet having a three-dimensional porous structure of a continuous skeleton, characterized in that the electrically conductive member is provided only on both ends of the fuel cell.

8. claim: 24

A maintenance method for a fuel-cell stack comprising a plurality of solid oxide fuel cells electrically connected in series and/or parallel through an electrically conductive member, characterized in that the electrically conductive member comprises a metal sheet having a three-dimensional porous structure of a continuous skeleton, and the electrically conductive member and/or the fuel cell are replaced after baking or power generation.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 79 3030

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

22-07-2009

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
GB 2286482	A	16-08-1995	NONE		
US 2003054215	A1	20-03-2003	NONE		
EP 1294035	A	19-03-2003	CA	2402952 A1	13-03-2003
			CA	2626828 A1	13-03-2003
			US	2003049513 A1	13-03-2003
			US	2006141323 A1	29-06-2006
US 4833045	A	23-05-1989	NONE		
US 4898792	A	06-02-1990	DE	68910296 D1	02-12-1993
			DE	68910296 T2	24-02-1994
			EP	0376436 A1	04-07-1990
			ES	2045447 T3	16-01-1994
			NO	893216 A	08-06-1990